# seamless integration
# making it happen

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**PENTAGON**—In Lt. Gen. Tom Hobbins' article "The Name of the Game" on page 2, he points out that the C4ISR Infostructure Directorate, or XIC, plays a paramount role in transitioning the Chief's vision of "seamless integration" into reality and is influential in all aspects of the airborne integration and development effort.

**The concept of an Airborne Network represents a radical departure from the present architecture, and presents us with formidable technical and programmatic challenges.**

Our present capabilities consist of point-to-point links for ground, air, sea and space platforms. Lack of interoperability among these links plagues the U.S., allied and coalition forces.

The key is forging a new dimension in combat connectivity between air, space, sea and terrestrial platforms and extending the Global Information Grid

to the AN. The challenge is to balance this effort within the constraints of budget, time and resources.

The plan to accomplish the AN is established through a hierarchy of strategic planning and management documents.

First, the AN vision provides an overview of the AN concept and clarifies the roles and responsibilities

## Planning/eval process

**Airborne Networking Vision**
provides overview

**AN Strategic Plan**
provides detailed description and precise timeline

**AN Prioritization Plan**
serves to focus migration and implementation efforts

**Operational case analysis**
quantifies and documents return on investment

between the many Air Force organizations contributing to its development. Next, the five-year AN Strategic Plan provides a detailed description and precise timeline for each phase of the implementation.

The Airborne Networking Prioritization Plan serves to focus our migration and implementation efforts in each phase of the Airborne Networking program through FY2020. In addition, to validate our course of action, we are conducting an operational case analysis of the AN. The analysis is designed to quantify and document our expected return on investment in terms of anticipated improvement in warfighting capability.

**We may be able to visualize this future capability, but making it a reality through integrating AN into our current operations will require a change to the way we currently do business.**

We are developing an AN that operates within a communications architec-

> *Our ... goal is to enable warfighters to strike emerging targets within single digit time-frames, denying the adversary any chance to adapt their tactics to improve their survivability.*

ture where much of the hardware and communications waveforms have yet to be developed.

Our end-state capability will provide for an ad hoc, transparent and secure self-forming, self-healing network of manned and unmanned airborne and space platforms, dynamically linked to terrestrial nodes. This network will include capabilities such as the ability to dynamically retarget airborne weapons systems after they've been launched, as well as link Air Force, joint, multi-national and coalition partners to give them a common real-time information picture.

**A revolutionary effort of this magnitude requires special focus and attention.** Within the Airborne Integration Division, or AF/XICA, we have established two branches.

XICAD oversees the development of new communications and secure data waveforms for existing and future airborne Air Force platforms. They are XIC's lead for the technical integration of future capabilities such as IP-addressable weapons data links, the Joint Tactical Radio System efforts, and the wideband data communication Family of Beyond Line of Sight Terminal initiative. XICAD works closely with other agencies and com-

munities to migrate from the primarily voice airborne communications infrastructure of today to a machine-to-machine communications capability.

XICAN, in partnership with Air Mobility Command as the Lead Command for Executive Airborne Communications Networking, focuses on Airborne Networking for both combat and support platforms, including Senior Leadership platforms, such as the VC-25 (Air Force One), and the E4B (National Airborne Operations Center).

XICAN helps direct the AN Integration management activities through participation in a number of decision making groups: the AN Integration Caucus, the AN General Officer Steering Committee, the AN Senior Steering Group, and the AN Special Interest Group. Working

together with these decisional groups, we monitor the progress and direction of airborne integration issues.

Through these forums, we stay focused on the integration effort, working toward an end state of revolutionary networking capabilities for the warfighters.

This capability will drastically reduce time delays within the kill chain process.

**There are still many challenges. Changing our way of thinking and our mindset may prove to be as difficult as changing our technology.** XIC continues working to provide a robust and global network capability to the warfighter through network enabled platforms and weapons, fused intelligence and real time situational awareness that translates to information and combat superiority well into the next century.

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### XICAD

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○➤ Lead for the technical integration of future capabilities such as IP-addressable weapons data links, the Joint Tactical Radio System, and the wideband data communication Family of Beyond Line of Sight Terminal.

### XICAN (with AFCA)

○➤ Focuses on Airborne Networking for both combat and support platforms, including Senior Leadership platforms, such as the VC-25 (Air Force One), and the E4B (National Airborne Operations Center).

○➤ Directs the management activities of four decision-making groups that monitor the progress of AN integration efforts.